Performance Data Sheet

Tube: 2 7/8", 7.90#, 0.276", P110

Tool Joint: 2 7/8" TTHR, 3.625 OD" x 2.265 ID" S-135

Tubular Specifications		
OD:	2.875	Inch
ID:	2.323	Inch
Wall Thickness:	0.276	Inch
Weight (nominal):	7.9	Lbs/Ft
Weight (adjusted):	8.8	Lbs/Ft
Grade:	P110	
Range:	R2	

Tubular Assembly		
Length - Approximate	32	Feet
Fluid Displacement	0.00280	BBLS/Ft
Fluid Capacity	0.0052	BBLS/Ft
Bending Yield	175	°/100 Ft
Compression Strength	198,000	Lbs

*An oilfield barrel equals 42 US gallons

Tubular Performance		
Inspection Class	**Premium Class 80%**	
Remaining Body Wall	0.221	Inch
Tensile Strength	198,000	Lbs
Torsional Strength	11,300	Lbs
Burst Capacity	18,500	PSI
Collapse Capacity	19,100	PSI

Notes:
- Dimensions, wall thickness and assembly lengths shown above are nominal if not otherwise stated
- Values shown may vary with actual values due to OEM tolerances, rounding and other factors
- Capacity, Displacement and Adjusted Weights are best estimates and are based on pipe purchased with 13" Tool Joints
- Tubing ordered to API 5CT 87.5% RBW

Notes:
- Tube / Pipe body properties are calculated based on uniform OD and wall thickness

Connection / Tool Joint Specifications		
Connection:	2 7/8" PH6 Type	
OD:	3.625	Inch
ID:	2.265	Inch
Drift:	2.229	Inch
Special Clearance Dia:	3.312	Inch
Make-Up Loss:	3.04	Inch
Threads Per Inch:	6	
SMYS:	135	KSI

Connection Make-Up Torque		
Thread Compound Friction Factor: (FF)	1.00	
Maximum Make-Up Torque[1]:	6,000	Ft-Lbs
Optimum Make-Up Torque:	4,700	Ft-Lbs
Minimum Make-Up Torque:	3,800	Ft-Lbs

Notes:
[1] Maximum torque is the value above which there is no additional benefit or reason to exceed. It is not meant to indicate the maximum torque the connection can withstand

Notes:
- Above dimensions are nominal
- Interchangeable with BTS6, NTS6, RTS6, WTS6 etc.

Connection Performance		
Torsional Yield Strength:	13,300	Ft-Lbs
Tensile Strength:	321,000	LBS
Operational Rotating Torque[2]:	10,500	Ft-Lbs

Notes:
[2] Operational Rotating Torque - This is a value set at 80% of Connection Torsional Yield and is provided to allow for additional rotating torque providing combined loads are accounted for. It is meant to serve as a guide or warning that connection yield is being approached. Rotating Torque involves the rotation of the entire string while in the wellbore and should not be confused with Make-Up Torque.
- Operational Rotating Torque should not exceed Max MUT when connection OD is less than special clearance diameter.

Tower Tools LLC Locations
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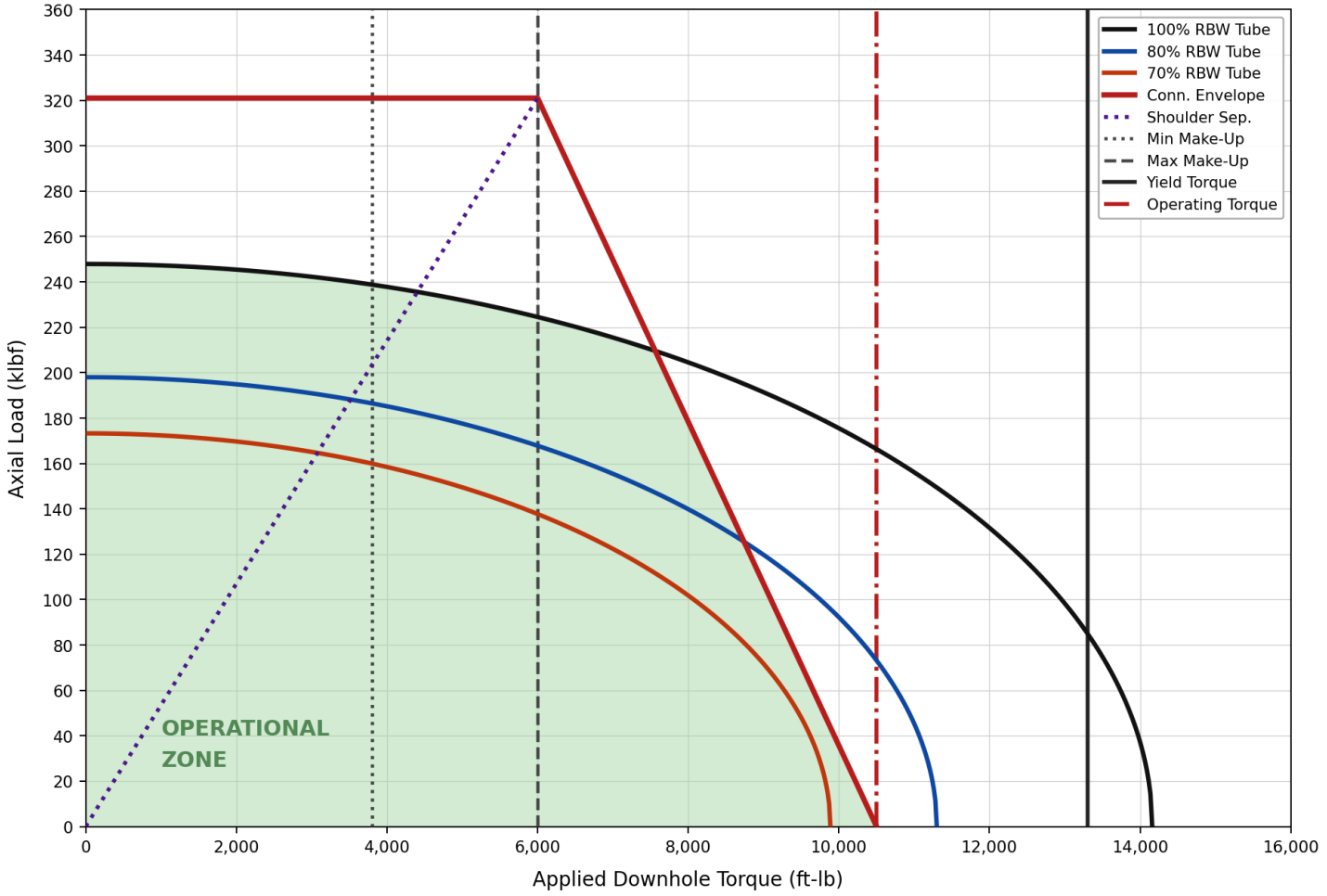
Torque-Tension Performance Envelope

2.875" 7.90# P-110 TTHR-278 | S-135 Tool Joint | Tower Tools LLC

Tower Tools provides this torque-tension reference chart to give operators a practical view of the TTHR-278 connection's combined load capacity during rotational drilling operations. All values reflect axial tension and applied downhole torque only. Factors such as bending loads, string compression, wellbore temperature, and reverse rotation are not represented and must be evaluated independently. The operator is responsible for applying appropriate engineering judgment when using this data in the field.

The shaded "Operational Zone" identifies the torque and tension combinations within which the TTHR-278 connection can be rotated downhole after being made up to the specified torque range. Within this zone, the connection retains sufficient capacity to handle the applied loads without reaching its design yield point. Any operating scenario that places combined loads outside this zone warrants engineering review before proceeding.



Tube Tensile (80% RBW)	Tube Torsion (80% RBW)	Conn. Tensile Yield	Conn. Torsion Yield	Operating Torque	Min / Opt / Max MUT
198,000 lbs	11,300 ft-lb	321,000 lbs	13,300 ft-lb	10,500 ft-lb	3,800 / 4,700 / 6,000 ft-lb